

LIFE18 GIE/SI/000008
LIFE SPODBUJAMO E-KROŽNO
LIFE TURN TO E-CIRCULAR

Project co-financed by



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE,
PODNEBJE IN ENERGIJO

Project partners



LAYMAN'S REPORT

A SIMPLIFIED REPORT FOR THE GENERAL PUBLIC

Welcome

to the Layman's Report of the LIFE Turn to e-circular project.

Project coordinator:

ZEOS,
ravnanje z električno in
elektronsko opremo, d.o.o.

Project area

Slovenia

Country size*:

20,271 km²

Population*:

2,129,052

Number of households:

859,782

* Source: Statistical Office of the
Republic of Slovenia



ACRONYMS:

- WEEE – Waste Electrical and Electronic Equipment
- EEE – Electrical and Electronic Equipment

Foreword

A Positive Shift Toward a Circular Economy

There's no doubt that e-waste is a significant environmental challenge, including in Slovenia.



Mag. Emil Šehić,
Director of ZEOS, d. o. o.

In 2022, **62 million tons of e-waste were generated globally — 82% more than in 2010**. By 2030, it's projected to hit **82 million tons — a 33% increase**. However, only 22.3% of e-waste is recycled correctly, covering merely 1% of the demand for rare earth elements we rely on.

A WEEE Forum survey found the average European household owns 74 electronic devices — including 4 broken and 9 unused but still functional ones. These could be reused, conserving natural resources.

ZEOS operates as a producer responsibility organization for EEE and works on improving circularity even after devices are no longer used. This latest LIFE project is ZEOS's third successful one, focusing on awareness raising activities and promoting the circular handling of e-waste.

Through strategic outreach, stakeholder engagement, and infrastructure improvements (like reuse corners, repair cafés, and reuse centers), the project has brought the circular economy concept into practical reality.

We achieved this through strategic communication and raising awareness among the public and all stakeholders involved in the e-waste management process, as well as by actively involving various stakeholders in the lifecycle of electrical appliances. With the help of diverse activities and approaches, we connected hundreds of stakeholders - from users to repair technicians, from non-governmental organizations to policymakers. In doing so, we established a strong network enabling continued dialogue and further collaboration.

Within these efforts, it is also important not to overlook the significance of adequate infrastructure, which allows consumers to participate in circular practices. We established new collection points for still-functioning appliances. We actively contributed to development of other forms of circular appliance management, including libraries of things, reuse centers, and repair cafés.

Thanks to our partners, project stakeholders, and target groups, we successfully strengthened existing initiatives related to developing a circular economy and contributed to creating new ones. In this way, we have collectively contributed to a more sustainable future – one in which natural resources are not only consumed but also reused.

None of our achievements would have been possible without the substantive and financial support of the European Commission and the Ministry of the Environment, Climate, and Energy of the Republic of Slovenia, to whom we extend our sincere gratitude. We also share the satisfaction of having achieved our set goals with our partners and everyone who supported us in the implementation of the project and its activities in any way.

Which achievements and impacts of the project are we most proud of?

We are pleased that we have:

Strengthened consumer awareness about the importance of sustainable management of appliances in the areas of reuse, sharing, repair, and the development of circular business models.

Effectively communicated environmental challenges, encouraging stakeholders to actively participate in project activities and develop their own environmental initiatives.

Had the process of managing waste electrical and electronic equipment.

Contributed to the development of new circular business models in the field of appliance management.

Established a strong network of stakeholders that encourages new collaborations at the local level.

Developed communication tools (videos, E-transformer 2.0) to educate people about sustainable appliance management and improve circular practices.

Transferred good practices abroad, which increased the project's impact at the international level.



Achieved results that show positive changes towards circular practices.

Increased the number of media publications with environmental content related to circular management of appliances, which enhanced the visibility of environmental topics.

Increased the visibility of the Life program and the concept of the circular economy in appliance management.

Established new locations for circular appliance management, enabling consumers to act more sustainably and have better access to used appliances.

Enabled the transfer of good practices among local organizations, promoted successful concepts and solutions, and increased overall efficiency.

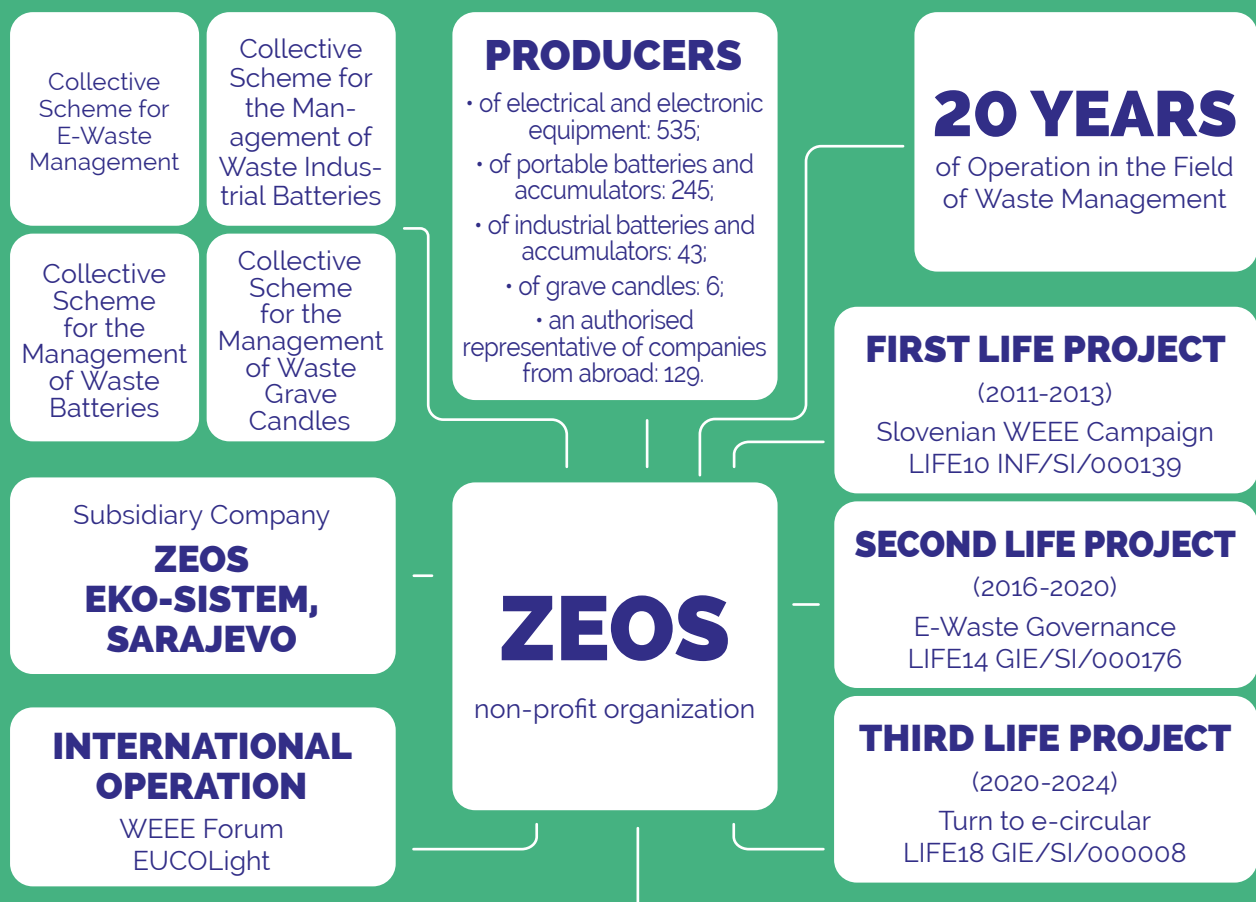
Promoted sustainable practices with other products (textiles, furniture, etc.).

ZEOS - Who Are We?

We are the operator of a collective scheme for managing e-waste, waste batteries, waste industrial batteries, and waste grave candles. We fulfill the obligations arising from legal regulations concerning managing this waste on behalf of producers, importers, and distributors of electrical and electronic equipment, batteries and accumulators, and grave candles. We are a non-profit organization.

Our responsible, efficient, and goal-oriented operations are based on the company's mission, vision, and values, which commit us to environmental preservation and are characterized by innovation, professionalism, reliability, social responsibility, international cooperation, and business transparency.

In addition to efficient management of e-waste processes, we dedicate significant attention to educating and raising awareness among the Slovenian population about the correct handling of e-waste. For this purpose, we have implemented Life Projects, a European financial instrument dedicated to environmental protection. In 20 years of the company's operations, we have built a widespread and solid network of international connections through which we extend our impact beyond Slovenia while also successfully transferring new knowledge and best practices from abroad to our domestic operations.



PROJECT PARTNERS

- Project AWARE (2019–2020) – EIT Raw Materials
- Project INSPIRES (2021–2024) – EIT Raw Materials
- Project CircThread (2021–2025) – Horizon 2020
- Project LIFE ECOSWEEE (2023–2025) – LIFE20-PLP-BE-LIFE-ECOSWEEE
- Project PERMANET (2024–2028) – HORIZON-CL4-2024-RESILIENCE-01
- Project ECirc4All (2025–2027) – Interreg Programme Slovenia–Austria 2021–2027
- Project UNITED CIRCLES (2024–2028) – HORIZON-CL4-2024-TWIN-TRANSITION-01

About the Project

Through this project, we raise awareness among target groups and stakeholders about the concept of the circular economy and circular management of appliances. We aim to change their habits regarding the handling of still-functioning appliances and to establish appropriate legislation and infrastructure to support circular appliance management.

PROJECT TITLE

Life Turn to e-circular (LIFE18 GIE/SI/000008)



SLOGAN

I am still usefull



DURATION

01. 10. 2019 - 30. 12. 2024



WORTH

2,163,558 €



PROJECT LEAD/ LEAD PARTNER

ZEOS, d.o.o.



PARTNERS

TSD, d.o.o. / Chamber of Commerce
and Industry of Slovenia /
Chamber of Public Utilities of
Slovenia



CO-FINANCERS

- European Commission (55%)
- Ministry of the Environment,
Climate, and Energy of the
Republic of Slovenia (20%)



STAKEHOLDERS

Public waste management service providers, producers and distributors of WEEE, municipalities, schools, repair service providers, reuse centers, non-governmental organizations, incubators and accelerators, the international association of WEEE management schemes, legislators.



TARGET GROUPS

- Households
- Consumers
- Families
- Businesses
- Start-up companies
- Media
- NGOs



PURPOSE AND OBJECTIVES

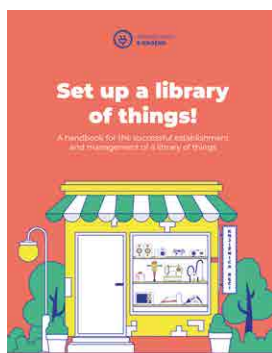
- Increase awareness among consumers and stakeholders about the importance and possibilities of a circular economy in the field of electrical and electronic equipment (EEE).
- Change consumer and stakeholder habits regarding the handling of functioning EEE towards a circular economy approach.
- Establish a network of collection points for receiving still-functioning appliances.
- Transfer best practices to other waste streams.
- Create a website as a hub for communication among all interested parties.
- Promote the development of circular business models.



Project Activities

Shared Use

The shared use of appliances offers a wide range of benefits: in addition to effectively reducing consumption, resource use, and environmental impact, it provides financial advantages for users by giving them access to devices they might not otherwise afford or whose purchase would not be economically sensible. Sharing communities operate on the principles of the sharing economy: members of the community borrow or rent appliances that are too expensive to buy, for which they lack space at home, or that they need so infrequently that purchasing them is not worthwhile.



As part of the project, we:

Issued the handbook "**Set up a library of things!**", in collaboration with the Library of Things.

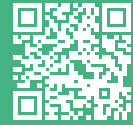
Encouraged organizations and local communities to establish sharing communities in collaboration with project stakeholders, which led to the establishment of:

- **A pilot shared-use community** within a company,
- **5 Libraries of Things** within traditional libraries, a reuse center, and other organizations, (images 1, 4)
- **9 sharing communities** in youth centers, (image 3)
- **3 permanent exchange corners** for still-functioning appliances. (image 2)

Through activities such as online garage sales, awareness-raising and collection campaigns for still-functioning appliances, launch events for Libraries of Things, and pop-up exchange stations at various events, we encouraged consumers to change their habits in how they handle appliances. (images 5, 6)

We collaborated with NGOs (Library of Things, Youth Network MaMa, reuse centers, associations...), municipalities, companies, and other project stakeholders.





Repair and Maintenance

Repair and maintenance play a crucial role in ensuring appliances' long-term functionality and extended lifespan. Regular servicing and repairs help prevent major breakdowns and the higher costs of purchasing new devices. Moreover, regular maintenance ensures optimal appliance performance, improving reliability and efficiency.

As part of the project, we:

Encouraged technicians to participate and connect by:

- **Organizing 3 technician meetups**, (image 1)
- Submitting a **proposal to establish a national occupational classification for the profession of household appliance technician**,
- Creating the Facebook group *Kam s tastarim?* ("Where to with the old stuff?") to promote dialogue between consumers and repair professionals.

Organized events and activities to encourage consumers to change their habits, including:

- **53 repair workshops held at repair service providers** (image 4)
- **13 "Repair Cafés"** (Popravn) (image 3)
- Repair workshops at various locations (image 2)
- "Šravfarije" (DIY repair corners) at awareness-raising events (image 5)

We produced 100 short videos about appliance repair and maintenance. The series *Itak, da se da!* (Sure, you can!) encourages users to tackle minor appliance repairs on their own. Each video shows step-by-step repair instructions accompanied by practical tips from a technician. The series was introduced at a formal premiere event (image 6)

We collaborated with technicians, non-governmental organizations (e.g., Library of Things), public institutions (e.g., the Slovenian Institute for Vocational Education and Training), and other project stakeholders.



Reuse

Reuse means offering appliances we no longer use to others. Instead of discarding them, we repair or refurbish them if needed, ensuring they are not treated as waste but used again. Reuse reduces consumerism, the need to manufacture new appliances and raw materials, energy consumption, and environmental burden, and it helps preserve resources while lowering our ecological footprint.

As part of the project, we:

- Established a **pilot network for the preparation process for WEEE reuse**.
- Set up **66 reuse corners for still-functioning EEE** at collection and reuse centers (images 1, 2, 3)

We encouraged stakeholders in the e-waste management process through various events and meetings:

- **4 working group meetings** on EEE reuse,
- **5 workshops** for public waste service providers, (image 4)
- **1 workshop** for reuse centers. (image 5)

We promoted habit change among consumers through awareness-raising activities carried out in collaboration with various stakeholders:

- **33 launch events** marking the official opening of reuse corners for still-functioning appliances, (image 6)
- **9 awareness-raising prize competitions**, (image 7)
- **A regional awareness and collection campaign** Prinesi stare aparate (Bring Your Old Appliances), (image 8)
- A door-to-door appliance **collection campaign**, (image 9)
- **Mobile collection** of waste and still-functioning appliances, (image 10)
- **Garage sales** at reuse centers. (image 11)

We collaborated with public waste service providers, non-governmental organizations (such as the Reuse Center, Vincenc Draksler Foundation, The Spirit of Time Association¹, Slovenian Consumers' Association), and other stakeholders.



Business Models

Business models in appliance reuse include strategies such as repair, refurbishment, and resale of used devices. These models are essential, as they help reduce waste and conserve resources while offering affordable alternatives to new products. They contribute to sustainable development and support the circular economy. At the same time, they create new jobs and strengthen local economies.

As part of the project, we:

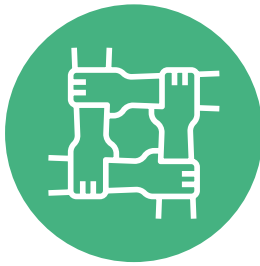
Encouraged young people and start-ups to develop circular business models through various activities carried out in collaboration with different stakeholders:

- Developed a program to support and promote business ideas in the field of circular economy,
- **Prepared content** for workshops at two start-up weekends organized by a project stakeholder,
- Organized **two start-up weekends** aimed at students and involving businesses in the development of circular business models, (images 1, 2, 3)
- Held **25 educational workshops for youth**, (images 4, 5)
- Contributed to the development of **6 circular business models** created by project stakeholders, (image 6)
- Launched a **pilot donation portal** for donating unsold electrical and electronic devices to socially disadvantaged groups.

We collaborated with non-governmental organizations (Youth Network MaMa, Institute for the Promotion of Youth Entrepreneurship, Entrepreneurship Academy), start-up companies (e.g., Reusable Technologies), and other stakeholders. (image 7)



Recorded Quantities of Appliances Redirected into Various Elements of the Circular Economy



5.352

Number of Appliance Shares and Exchanges within the **SHARED USE initiative**



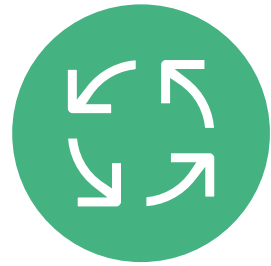
8.068

Number of Appliance Diagnostics and Repairs within the **REPAIR AND MAINTENANCE initiative**



13.547

Number of Appliances Collected within the **REUSE initiative**



19.653

Number of Appliances Redirected into Circular Business Models within the **BUSINESS MODELS initiative**

Impact of the Project on Greenhouse Gas Emissions

During the project period, we extended the usage time of electrical and electronic appliances by 323 tons. By redirecting these appliances into various streams of the circular economy, we preserved valuable secondary raw materials, including:

- **75 tons of iron**
- **7 tons of copper**
- **8 tons of aluminium**

By keeping electrical appliances in use for a longer time, we reduced CO₂ emissions by as much as 1,795 tons. Additionally, recovering secondary raw materials helped prevent the extraction of new materials, which would have required significantly more energy and resulted in higher CO₂ emissions. This further contributed to our overall reduction in emissions.



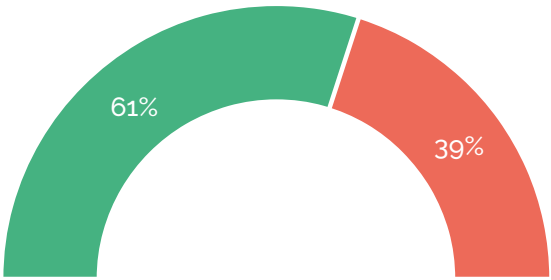
RESEARCH:

Effects of the Life Turn to e-circular Project

The research on the effects of the Life Turn to e-circular project was conducted by the company AR-HEA SOLUTIO d.o.o. and took place from December 20 to December 30, 2024 (N=1,000).

61%

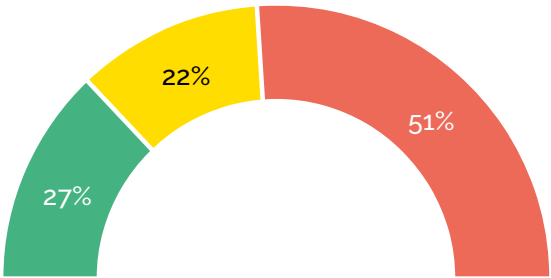
of people were reached through project activities



● reached
● unreached

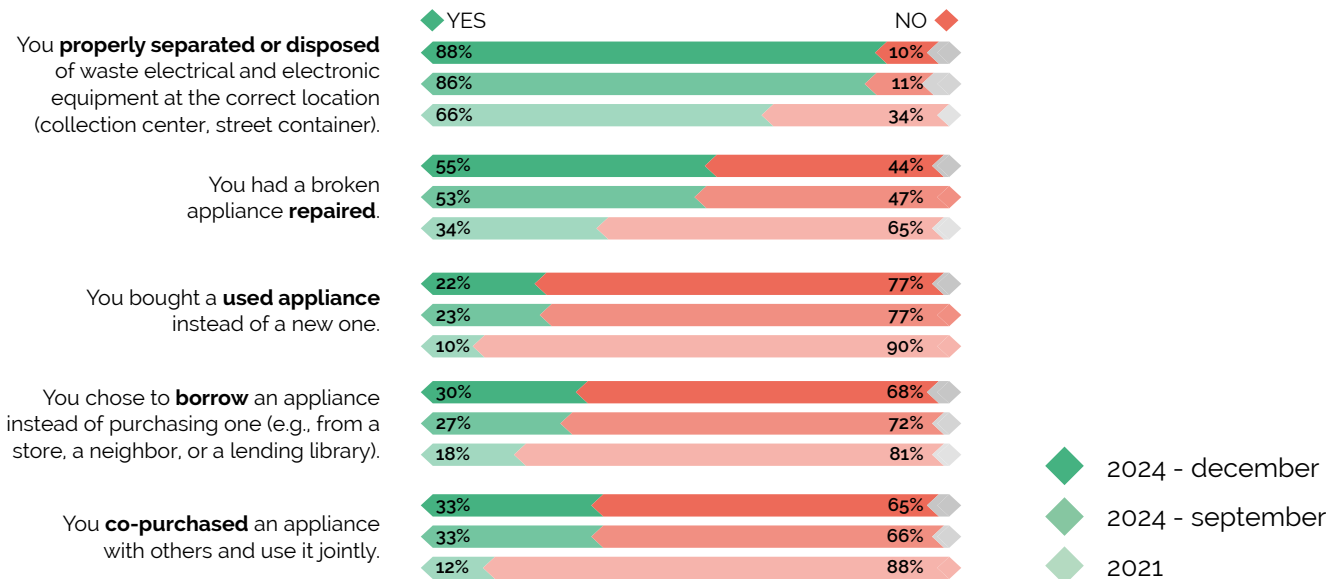
27%

of the Slovenian population state that the project significantly influenced their habits related to circular practices



● significantly
● to some extent
● not

Have you done any of the following in the past year?



Positive changes are evident across all core elements of the circular economy.

Transfer of good practices

<p>Electrical appliances and Circular Economy Handbook</p>  <p>COLLECTION OF CIRCULAR ECONOMY CASE STUDIES</p>	<p>Video Tutorials on Textile and Furniture Repair</p>  <p>TRANSFER OF AWARENESS-RAISING TOOL TO ANOTHER WASTE STREAM</p>	<p>Awareness-Raising Events Abroad</p>  <p>IMPLEMENTATION OF AWARENESS-RAISING METHODS IN AN INTERNATIONAL CONTEXT</p>	<p>Networking Among Project Stakeholders</p>  <p>KNOWLEDGE TRANSFER AND ESTABLISHMENT OF NEW COLLABORATIONS</p>
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INTERNATIONAL NETWORKING:

International E-Waste Day

We regularly participated in International E-Waste Day, organized annually by the WEEE Forum, and presented project activities to a broader international audience. Thanks to various meetings and events, we successfully transferred best practices beyond Slovenia's borders.



The project activities also contributed to the development of new projects!

Communication Channels

To ensure the project's visibility, we effectively promoted its objectives and activities. In line with the project's communication strategy, we established various communication channels and tools that helped us reach our target audiences and foster interaction and engagement—particularly on social media. There, consistent presence and activity are essential, as well as well-thought-out and articulated messages designed to prompt a response from the audience. Equally important is choosing the right channel for each specific message and target group. By employing a strategic approach to communication, we successfully accomplished all of our communication objectives.

AWARENESS-RAISING EVENTS AND CAMPAIGNS

PROFESSIONAL WORKSHOPS AND CONFERENCES

SOCIAL MEDIA & WEBSITES (videos, etc.)

LOCATIONS FOR CIRCULAR HANDLING OF APPLIANCES (info boards, etc.)

PRINT (flyers, posters)

TELEPHONE COMMUNICATION (surveys, etc.)

MEDIA ADVERTISING (TV, radio, newspapers, etc.)

MEDIA COMMUNICATION: 3,827 publications

WEBSITE: www.zeos.si

Connects all actors in the circular economy in the field of EEE.

SCREENING OF THE VIDEO SERIES
Itak da se da (Sure you can!)
on local TV and iFixit



Click to view the
interactive map
of all collection
locations.



Awareness-Raising Vehicle E-transformer 2.0

The E-transformer 2.0 – a truck converted into a mobile classroom – was created for the Life Slovenian WEEE Campaign LIFE10 INF/SI/000139 (2011–2013) and later used in the Life E-waste governance Project LIFE14 GIE/SI/000176 (2016–2020). For the current project, the vehicle was thoroughly refurbished and redesigned.

The E-transformer has become a modern, interactive exhibition space and classroom dedicated to educating the public about the principles and elements of the circular economy. Visitors can attend an educational lecture and watch videos about circular economy practices, explore an appliance museum, learn about permanent magnets, play retro computer games, take part in collecting appliances and swap events, and even receive a free diagnostic check-up for non-functioning devices. They also get practical tips on using their appliances efficiently and extending their lifespan.

The vehicle toured educational institutions across the country and was regularly present at various local and regional events.

It was involved in **240 awareness-raising activities**.



Educational Lecture



Interactive Video on the Circular Economy



Appliance Museum



Presentation of Permanent Magnets



Retro Computer Games



Opportunity to Participate in the Appliance Swap Station



Opportunity to Participate in the Appliance Collection Campaign



Opportunity to Participate in a Repair Workshop

Professional Conferences

To connect stakeholders, exchange experiences, and find solutions for an easier transition from a linear to a circular economy, we organized **three professional conferences** and round tables focused on the challenges of circular practices.

- **E-Devices** – Transition from a Linear to a Circular Economy (images 1, 2)
- 27th Traditional **Professional Consultation: Communicating Toward Slovenia's Environmental Modernization**, organized in cooperation with ZEG, OKP, ZRS Bistra Ptuj, and CPU. (images 3, 4)
- **Final Conference** of the Life Project "Turn to e-circular" (images 5, 6)



Certificate – Turn to e-circular

As part of the project, we awarded participating stakeholders a certificate for circular management of electrical and electronic equipment (EEE), recognizing their efforts toward responsible practices that help reduce environmental impact and preserve resources. Beyond acknowledging their contribution, the certificate also enhances the recipient's reputation within their community, motivating and encouraging other stakeholders to follow suit.



Project Visual Identity

The design team created a comprehensive visual identity aligned with the project's vision of an optimistic future. As a result, the tone of communication with target groups is positive, encouraging, and forward-looking. In developing the logo, the designers drew inspiration from several key elements: e-devices, with the plug serving as a unifying symbol of this category; the letter "e"; and cables arranged in a circular shape to represent circularity. They also included the symbol of a smiley face to convey positive behavior and activation. The color blue was chosen to reflect responsible actions and trust, while yellow symbolizes a brighter future filled with optimism and energy.



**SPODBUJAMO
E-KROŽNO**



Thank You!

On behalf of ZEOS, we extend our heartfelt thanks to everyone who contributed to our project and helped us achieve our environmental goals.

Thank you to our partners, stakeholders, and external collaborators whose dedication and effort played a key role in the project's success.

Thank you to the local communities and residents who supported us and participated in our activities.

Thank you to the co-financers for their financial support and trust in our project.

Thank you to all those who continue to actively contribute to developing and implementing circular economy processes – based on sharing, repairing, reusing, refurbishing, and recycling appliances.



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Social networks



Facebook



Instagram



Tiktok



Youtube



LinkedIn



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